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Joseph Huber

Environmental Sociology in Search of Profile¹

Abstract

Most schools of sociological thought could have been pioneers of social-science environmental research – institutional sociology, Marxism, the Frankfurt school, the approaches of Parsons and Luhmann, and not forgetting industrial sociology. In fact, they were laggards. There are lessons to be learned from this, e.g. that ideological criticism can create ideological barriers itself, and that the analysis of social structures and functions is pointless to the extent to which it loses sight of bodily and mindful human actors and populations. Instead, there ought to be a new synthesis of theories of human action and social systems.

Furthermore, environmental research is confronting sociology once more with its long-standing dilemma of whether to be just one out of several disciplines in social sciences specializing in the analysis of the divisional structure of society (classes, groups, institutions, roles, positional status) or whether to maintain its aspirations for providing some *general* social theory.

Environmental sociology is an interdisciplinary undertaking by nature. It shares almost all of its research topics with neighbouring disciplines, from the study of environmental awareness and behaviour, via environmental discourse lines, policies and instruments, to aspects of the economy and technology. At the same time, environmental sociology needs to be firmly rooted in its home discipline. Within sociology, environmental research draws on a wide range of sub-disciplines to which in turn it feeds back particular contributions of its own – which will eventually turn out to be contributions to sociological theory in general.

Zusammenfassung

Die meisten Richtungen soziologischer Theorie hätten Pioniere der sozialwissenschaftlichen Umweltforschung sein können – institutionelle Soziologie, Marxismus, Frankfurter Schule, die Ansätze von Parsons und Luhmann, nicht zu

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vergessen die Industriesoziologie. Tatsächlich erwiesen sie sich als Nachzügler. Zu lernen ist daraus u.a., dass Ideologiekritik selbst ideologische Hürden errichten kann, und dass die Analyse von gesellschaftlichen Strukturen und Funktionen in dem Maße gegenstandslos wird, wie sie die leibhaftigen und mit Bewusstsein ausgestatteten Menschen und Bevölkerungen aus dem Blick verliert. Stattdessen sollte auf eine neue Synthese von Handlungs- und Systemtheorie hingearbeitet werden.

Darüberhinaus konfrontiert die Umweltforschung die Soziologie einmal mehr mit ihrem alten Dilemma, ob sie nur eine unter etlichen sozialwissenschaftlichen Disziplinen ist, die speziell die divisionale Struktur der Gesellschaft untersucht (Klassen, Gruppen, Institutionen, Rollen, positionaler Status), oder ob sie ihren Anspruch aufrecht erhält, allgemeine Gesellschaftstheorie zu entwickeln.

Umweltsoziologie ist ihrer Eigenart nach ein interdisziplinäres Unterfangen. Sie teilt fast alle ihre Forschungsthemen mit benachbarten Disziplinen, von Forschungen zum Umweltbewusstsein und –verhalten, über Umweltdiskurse, Umweltpolitik und ihre Instrumente, bis zu Aspekten der wirtschaftlichen und technologischen Entwicklung. Zugleich bedarf die Umweltsoziologie einer festen Verankerung in ihrer Mutterdisziplin. Innerhalb derselben greift sie auf eine längere Reihe von speziellen Soziologien zurück, in die sie ihre Ergebnisse rückwirkend wieder einspeist – was sich auch als Beitrag zur allgemeinen soziologischen Theorieentwicklung erweisen dürfte.

Environmental sociology, emerging since around 1980 and a good bit settled during the 90s, is still in search of profile. The perspectives of environmental sociology discussed in this article are supposed to be of some general validity, though particularly referring to the German context. This is done in four steps – first, by talking about sociology having been a latecomer to environmental research, second, by looking into the reasons why and the lessons that can be learned, third, by conceiving of an appropriate role of environmental sociology both within sociology as well as in the field of interdisciplinary cooperation, and finally by giving an overview of the main research topics of environmental sociology.

1 Sociology as a latecomer to environmental research

Environmentalism emerged during the late 1960s and the early 70s. The first broad environmental discourse was the growth debate that started in 1972 with the Club of Rome report „Limits to growth“. Participants from the side of re-

search were computer scientists, future studies researchers not clearly wedded to some academic discipline, and economists.

Among the social sciences it were economics and Law that dealt with environmental issues ever since the beginnings. With regard to Law this happened for obvious reasons of environmental law-making and regulation. Also with economics it did not happen by chance. In the first step of analysis, modern human-made environmental problems originate in the physical metabolism of industrial society; and among the social sciences it is certainly economics that comes closest to considering questions of physical production and consumption, procurement of natural resources, growth in volumes of turnover, etc. Alternatively, this could have been done by industrial sociology as well, but at the time there was hardly another subdiscipline of sociology so conservative in shaping its subject.

Towards the mid-1970s some philosophers came in, taking sides on ethical grounds, and towards the end of the 1970s political scientists entered the arena, looking into government processes and institutional capacity building. The first half of the 1980s saw psychology coming in by investigating into the subject of environmental awareness and personal attitudes towards environmental issues.

In sociology around 1975–80 there were two lines of research with a certain relevance to environmental issues. One of them was the empirical research on a supposed values shift from materialist to post-materialist value orientations. The other one was the research on contemporary social movements. Neither one, yet, was considered to be a contribution to what eventually became environmental sociology. In spite of the fact that the emergence of environmentalism indeed had to do with the cultural dynamics of value orientations, the environment was not expressly included in the research on the values shift. Not a single item in Inglehard referred to the environment. Similarly, the green movement, despite being among the most important of the new social movements, did not attract much attention from academia. Other movements of the time were given more academic research coverage, e.g. the antiauthoritarian education movement and the extraparlimentary protest movement.

Of course, there were some individuals interested in researching into green issues who happened to be sociologists. They used to be active environmentalists. But at the time they were not considered yet as representing a new branch of sociology. The then establishment of academic sociology stayed rather indifferent for quite a while, much longer than neighbouring disciplines such as economics, Law, political science, psychology, and philosophy. Even historians and educationalists recognized earlier than sociologists that there was a new issue

calling for new responses from their discipline. Why has academic sociology had such difficulties to officially adopt the environment issue?

2 Why sociology had difficulties in adopting the ecological question

An answer usually given is that environmental problems were not considered to be a genuine subject of sociology. This, however, rather than being an answer, is part of the question: Why did sociology recognize only 20 years late that the environment issue represents a fundamental political question – the ecological question – of an importance comparable to the national question, the constitutional question, and the social question, including the world development question.

Sociology, it was said, had positionned itself in great distance to nature. Apparently this was the case, although, as I want to emphasize, neglect of nature did *not* follow from the predominant theoretical knowledge base. As far as Germany is concerned, there were four main currents of theory:

1. the main stream of institutional sociology, structuralism, and role theory, dating back to Durkheim, Simmel, Weber, and Sombart, also including Gehlen, Schelsky, or Dahrendorf
2. an oppositional current of neomarxism, having faded away during the 80s
3. the critical theory (also known as Frankfurt school), including Habermas, representing a kind of oppositional main stream, but losing momentum and also having faded away during the 90s
4. functional sociology and system theory from Parsons to Luhmann, representing another main stream that even became somehow predominant during the 90s.

The paradoxical fact is that all of these four paradigms actually *do* have direct links to green issues. They could have engaged in environmental research without delay. They could even have been the vanguard of social-science environmental research:

(1) Institutional sociology covers a field where there is much overlapping with institutional economics, similar to industrial sociology. Furthermore, institutional sociology always included cultural sociology and sociology of knowledge, comparing different cosmologies coming with different attitudes towards humans and nature, and different attitudes towards colonizing the world. That could have been a good starting point for research on environmental awareness, ecological mind formation, and competing cultural paradigms of nature and the role of humans and society within nature. But, as we know, such thing did not

happen, except in some pioneers, e.g. in Catton/Dunlap 1979, or Cotgrove/ Duff 1980.

(2) Marxism. In Marx, embeddedness of society in nature, and dependence of human production on the productive and regenerative forces of nature, was a core element dating back to William Petty in the 17th and the physiocrats in the 18th century. But those who came up with categories such as ecological transformation, colonization of the environment, over-exploitation of eco-systems, entropy economics, industrial metabolism, and industrial ecology (e.g. Ayres 1996, Socolow et al. 1994) were anything but marxists. Only a few marxists actually started to address green issues during the 80s, among them Altvater.

(3) Critical theory. A central part of the teachings of the Frankfurt school was criticism of a one-sidedly „instrumental“, i.e. utilitarian and technocratic notion of progress, criticism of the destructive dark side of modern science and technology not officially taken account of. One could actually have expected the Frankfurt school to come up with a *green* criticism of environment-threatening modern science and technology, and starting from there, it could have been some adherents of critical theory to set up technology assessment and risk communication. They did not. Habermas was scared about a supposed colonization of the Lebenswelt by the technosystem, not about colonization and over-exploitation of nature by techno-civilized humans. Ulrich Beck's book on the „Risk Society“ from 1986, though, was in a certain sense close to the spirit of critical theory, and it certainly stood as a landmark in the development of environmental sociology. But it was looked at with some reservations.

(4) Functional sociology from Parsons to Luhmann. For social system theory it would have been self-evident to put forth an environmental theory. The relation between system and environment is the centrepiece of any systems approach – at least, that is what one could reasonably guess if one didn't know about the strange convolutions of Luhmann's self-relational communications meandering through thousands of self-similar pages, referring to each other in autopoietic Latin while completely forgetting about humans and any substantial meaning of environment. Luhmann's booklet on „Ecological Communication“, also from 1986, proved to be rather useless from an environmental point of view, not even containing a sensible socio-ecological definition of the human environment. It thus was a disappointment to the newly emerging discipline, even if he tried to deliver seconds (1991) which were better indeed.

While it can be understood why Luhmann failed to deliver on environmental promises, there is no reason inherent to the other theoretical schools for their failing too. A closer look on the previous history of sociological theory discloses quite a number of filiations relating to nature, ecology and the environment

(comp. Groß 2001). There is, however, a further feature in post-war sociology, *prima vista* shared by all of the four groups, that actually may help to explain the 20 years delay of environmental sociology: Post-war sociology increasingly specialized in analyzing social structures and functions. It no longer wanted to be anthropology, in the sense of a science about human beings, except perhaps in terms of Freudian psycho-analysis, not however in terms of what was previously known e.g. as philosophical anthropology. As a result, sociology stopped asking fundamental questions about the nature of humans, and the nature of Nature, and the nature of their interrelatedness and co-evolution.

Sociology also stopped seeing itself as a population science. But social or human ecology, after all, comes down to being a population science, a science researching into the growth and structural evolvement of populations within their environment, changing that environment, etc. Ecology is about the interrelations between different populations organised within their social sphere, e.g. the anthroposphere, within the wider context of geo- and biosphere as their living-space providing limited resources and sinks. Luhmann had very little understanding of this, particularly, that the environment needs a geo- and biospheric definition as well as humans operating therein physically.

Furthermore, the green movement of the 70s and 80s still was rather conservationist, naturalist, vitalist, holistic, romanticist, alternative, communitarian, etc. Generally speaking, it was ideational in some sense, representing cultural currents all of which were suspected by left-leaning sociologists of possibly being right-wing, and having been proto-fascist during the late 19th and early 20th century. To my knowledge, this represents a misjudgement based on some half-truth. But it was typical for post-war political thinking, including the disorienting fact of having a neo-ideational Frankfurt school steadfastly denying their direct filiations to those roots. In brief, until the 1980s, sociology disliked issues linked to anything „bio“ and „life“, to nature, people and populations – for ideological reasons.

A factor which then might have helped to come to terms with the ecological question was that during the mid-80s and early 90s the environment issue became adopted throughout society. Putting the environment on top of the agenda, highly controversial in the beginnings, finally became consensual in principle, albeit not in detail and specification. Established academics are seldomly vanguards and pioneers, nor, however, can they afford too much to be among the laggards.

And finally, in complete accordance with Mannheim's and Kuhn's theses on the succession of competing paradigms, the change was straightforwardly bio-

logical. Some of the elder generation simply had to leave so that some of the then younger environmental researchers could take over.

3 Some conclusions for theory

Among the conclusions for theory that can be drawn from the situation are the following:

(1) There will be a certain pluralism of approaches, especially nourished by institutional sociology and action theory as well as by functional sociologies and system theories.

(2) I am expressly using the plural here because we should not succumb to the ill-conceived dogma that Luhmann theory would equal system theory. There has been and will be societal system theory beyond Luhmann. Moreover, and more importantly, system theory and action theory should not be seen as being exclusive to each other. They can be related to each other. Some merging of system theory and action theory will be beneficial to environmental sociology, not least with regard to its connectivity to other disciplines in interdisciplinary cooperation.

(3) Following from this, our approaches in theory and modelling, while certainly corresponding to institutions focussed around certain societal functions, must not be ignorant of humans. We have to put human actors – individual and collective, personal and corporate – right into the centre of our analyses.

Communication proceeds in the medium of mind, and that is always a person's mind, with its personal characteristics of awareness and un/consciousness, mentality, etc. Sociologists should certainly not become psychologists who look into the psychic mechanisms of cognition, affection, sensation, and behavioural disposition. But environmental sociologists have to be experts of communication and interactive dynamics, particularly discourse dynamics, which is to say, cultural sociologists understanding the formation of mind, values and knowledge, because formative processes in culture and politics are at the same time formative also to ecologically relevant effectuate processes in law-making, public administration and private management, economy, work, production, and technology. It is the actual mind of actually existing people where cultural and political communication processes take place. That's why we need some revitalization of cultural sociology, sociology of knowledge, a fresh start in discourse analysis, and related research lines at the formative system level.

(4) Environmental sociology will nevertheless not restrict itself to the formative system level. In ecological terms, the real thing happens in physical production and consumption carried out in the operative system through human work and technology. Practical operations are controlled at the effectuate system

level by available know-how, skills, tools and techniques, the economy, law and regulation.

(5) So environmental sociology has to deal with the rather complicated interplay between a number of factors and functions at different system levels. Seen from an environmental perspective,

- the *immediate question* is how the industrial metabolism is actuated in production, or consumption respectively, by physical activities.
- *Questions directly connecting* to this deal with how these physical operations are organized within the technosystem, and how they are conditioned externally, sometimes even determined, by the controls systems of law, regulation and the economy.
- The *more far-reaching questions* then deal with how all of these effectuate subsystems are in turn controlled by cultural and political communication processes at the formative system level aimed at knowledge, judgement, and will, all of them revolving around ideas, values, and interests.

Considerations like these open up rather complex research activities. Environmental sociology has to demonstrate that it is capable of coping with that degree of complexity.

4 Positioning environmental sociology within sociology and the field of interdisciplinary cooperation in environmental research

After the delayed arrival of sociology in environmental research, it was only in the course of the 1990s that environmental sociology as a specialized academic discipline, represented by recognized experts, took shape and hold. The section „Sociology and Ecology“ of the German Society of Sociology was set up in 1994, but even in 1996 the majority of participants did not appreciate yet the label of „environmental sociology“. There were alternative proposals such as „ecological sociology“, „social-science environmental research“, and „sociology and ecology“ which eventually was chosen. Perhaps the section should think once again about renaming into „environmental sociology“, and be it simply for the pragmatic reason that „environmental sociology“ has by now become common usage.

There is no reason to be afraid of becoming just another hyphenate sociology. The complex nature of environmental sociological research as such will prevent a narrow-gauge hyphenate sociology. As shown below, environmental sociology needs to draw on a wide range of subdisciplines to which in turn it also contributes. Because of its complex character, environmental sociology even will contribute to *general* sociological theory.

For my part, it was in 1992 that I started to call myself an environmental sociologist. The 15–20 years before, when asked, I used to say I am a social scientist researching into environmental problems of modern industrial society. In fact, I did not care too much about academic disciplines, and felt being an economist and a political scientist as much as a sociologist. Once one has become part of academia, however, one cannot avoid to care about academic disciplines.

There is a difference and some tension between declaring oneself a sociologist, or a social scientist. On the one hand, for institutional and professional reasons, environmental research needs to be firmly anchored in the disciplinary structure of academia. Academic disciplines are not „old-fashioned“. They are the result of an *ongoing* differentiation in the learning course of modern science and society. On the other hand it is self-evident that environmental research needs to be interdisciplinary. Environmental issues represent a particularly clear case for cross-boundary cooperation.

Before further talking about questions of academic cooperation I would like to point out that cross-boundary cooperation should not just be interdisciplinary within academia. In a field like environmental research we also need some close cooperation with actors in politics, government, non-governmental organisations, in industry and businesses, confederations and unions, professional associations, mass-media and education. Such contacts will occur on local and national levels as much as on European and global levels. Equally, cooperation in research will nowadays take place to a certain extent on the international level, in international research projects, working groups, or international networks of any kind.

To come back to academia, there is the remarkable fact that since the early 1990s there is no discipline left that would have missed to develop an environmental subdiscipline of their own, from environmental physics and chemistry to environmental ethics and education (see table). I don't know of another example of a research issue that created such an impressive transdisciplinary field. None of those environmental subdisciplines acts in splendid isolation. All of them cooperate in interdisciplinary settings.

Research cooperation on a regular basis tends to take place *within* the three spheres of science, whereas cooperation *across* the spheres remains a rather rare event. In principle, there is nothing wrong with the overall tripartition. When geologists, climatologists and other natural scientists research into the chemical reactions and thermodynamics of green-house gases there is no use for sociologists to participate. Research cooperation, by the way, should not be mixed up with joint membership of experts on political advisory committees. In research, however, there seems to be little opportunity for systematic cooperation of social

scientists with natural scientists. There are some more opportunities, not too much either, with engineers and designers. This is probably one of the reasons why social-science departments within natural-science environmental research institutions tend to remain in a rather marginal position.

Academic Disciplines in Environmental Research

Natural Sciences	Engineering Sciences	Social Sciences incl. Cultural Sciences or Humanities
<ul style="list-style-type: none"> - Environmental physics - Environmental chemistry, ecological chemistry - Ecological geo-chemistry - Ecological bio-chemistry - Ecology, environ. biology - Conservation of Nature and Landscape - Environmental geology, geological ecology - Prehistorical ecology - Regional and town ecology - Agricultural ecology - Eco-toxicology - Environmental medicine 	<ul style="list-style-type: none"> - Environmental engineering <ul style="list-style-type: none"> - waste air - effluent water - Waste management - Recycling and reuse - Ecological remediation of brownfields - Civil engineering and construction below and above ground level - Envir. process engineering - Biotechnological process engineering - Environmental energy technology - Environmentally oriented transport and traffic-planning - Industrial product design for environment - Ecological architecture - Ecological town and regional planning 	<ul style="list-style-type: none"> - Environmental management - Environmental economics, ecological economics - Environmental Law - Environmental administration and planning - Municipal ecology - Social or Human Ecology (settlement ecology) - Environmental political science - Environmental sociology - Environmental journalism - Environmental psychology, ecological psychology - Environmental ethics, environm. philosophy - Environmental history - Environmental education

Social scientists, yet, need to know about the natural scientists' most important ecological findings. Environmental sociologists are not ecologists *sensu strictu*. Eco-systems and the physical industrial metabolism, plants and animals, oceans and mountains, water and soil, organismic toxicity and morbidity risk, are none of a sociologist's business. Theirs, by contrast, is to find out how and why hu-

man populations within the conditions of their societal communication and organization come to cause those environmental effects, and how these effects are fed back into the human and societal condition (see also Diekmann/ Preisendörfer 2001).

In the particular context of middle-range cooperation internal to the sphere of social sciences, sociology faces that particular dilemma other disciplines in the field do not have in the same way: the dilemma of whether to consider yourself an environmental *sociologist*, or a *social scientist* engaging in environmental research. That distinction entails a fundamental choice which seems to have been a dilemma common to sociology ever since it came into existence: Are we sociologists in a rather narrow sense, dealing with topics unique to the discipline, especially questions relating to the divisional structure of society such as e.g. social stratification, social groups and milieus, gender division, social roles, life styles, and similar; or are we social scientists in a much broader understanding?

In a broad understanding, sociology includes the entire sphere of social sciences, thus any subject that has to do with persons and all of societal institutions and functions, including the formative fields of culture and politics, and all of the effectuate functions from law, regulation, administration or management, to economy, technology, work and production/consumption. Law is expected to deal with legal matters. Education is expected to deal with socialization and schooling. Economics is expected to deal with the price-related allocation and distribution of valuable items. And similarly so on. Sociology, however, besides those specialties unique to the discipline, is also expected to provide some general theory of society and human action, as a frame of reference useful to any discipline in the sphere of social sciences.

The role of sociology as a provider of general theory is certainly not that of making disciplinary theories redundant. Presuming that would be a mistake. Sociology never could be a substitute for economics, Law, political science, philosophy, education, or psychology. But sociology was time and again able to provide some general paradigm opening up a common horizon in social sciences, common categories and models, common questions and orientations. Any sphere of science is in need of some commonly shared transdisciplinary categories and theoretical approaches. For sociology, there is no getting around the dilemma of being a general lead discipline among social sciences, and of being at the same time just one specialized discipline among others. One simply has to be aware of that dilemma, and has no choice but to withstand the tensions between a broad understanding and narrow notions of the discipline.

So, in contradicting faint-hearted arguments on the supposed end of general societal theory, sociology *has to* deliver some grand design, as well as environ-

mental sociology has to deliver some general frame of reference for the entire field of social-science environmental research. It fits such a perspective that e.g. Diekmann and Preisendörfer (2001) have chosen a *generalized* rational choice approach to environmental behaviour. It may have its limitations, as other approaches do, but it is valid to the extent it focusses on questions where cost-benefit-reasoning can make sense. And it has the advantage of being highly connective, thus useful, in interdisciplinary communication. Jaeger (1994), more from an institutionalist viewpoint, has also proposed some general social-science categories in environmental research. I myself have tried to contribute to such a general frame of reference in the form of a systemic-evolutive theory of environmental action published under the title of „*General Environmental Sociology*“ (Huber 2001). Otherwise – if we were to give up the demanding broad notion of sociology as a lead discipline, and were incapable of putting forth general societal theory – sociology, and environmental sociology alike, were reduced to rubble, the rubble of a dissolving discipline dealing with what has been left over after all other disciplines (economics, Law, political science, etc.) have chosen their subject.

5 A range of research topics of environmental sociology

On the basis of a broad notion of environmental sociology we can easily identify quite a number of topics of environmental research. The following list, long as it may appear, is probably not exhaustive yet. Much of it overlaps with what can be found in readers or single articles on environmental sociology, e.g. in Diekmann/Jaeger 1996, Redclift/Woodgate 1997, Knaus/Renn 1998, Dunlap/Michelson 1998, or Brand/Reusswig 2001 and Huber 2001b. Within a systemic structure, the spectrum of topics can be arranged as follows:

1a Formative functions cultural

- *Environmental awareness* and its different components (knowledge, value-related assessments, will-building), carried out in cooperation with social psychology
- Cultural dynamics of *competing value orientations and world-view paradigms* including different images of Nature, and different attitudes towards environmental risk-taking or risk-avoiding, which is a core competence of cultural sociology and sociology of knowledge, and related to this,
- *Environmental ethics*, in cooperation with philosophy
- Research on the life course of *ecology movements* at different times in different nations

-
- Studies on the *creation and diffusion of environmental knowledge*, both among the elites and the broad public, particularly among social movements, academia, mass-media, and polity, carried out in cooperation with mass-media science and education

1b Formative functions political

- Research on the ongoing development of different *environmental lead visions* (Leitbilder) and *environmental discourse lines*, such as the modernization discourse, risk discourse, sustainability discourse, and the discourse on environmental innovations increasing efficiency and improving metabolic consistency of the industrial ecology, carried out in cooperation with political science, economics, and also in absorbing findings from natural and engineering sciences
- Study of *environmental issue cycles*, and mass-media coverage of environmental issues, in cooperation with mass-communication science
- Research on *agenda setting in environmental policy and environmental policy cycles* within different institutions of government, meta-corporations and NGOs, industry, finance, research, etc., carried out in cooperation with political science

2a Effectuative functions ordinative related to government

- Studies on different types of *environmental policy patterns*, including actor constellations, institutional settings, and different *environmental standards* as well as legal instruments and administrative procedures of *environmental regulation* such as e.g. control procedures, green taxes, fees, tradeable emission certificates, liability regulation, voluntary self-commitments, mediation, green product certification, and further ones
- Studies relating to *environmental planning* on national and local levels, e.g. national environmental plans, local „Agenda 21“ initiatives, transition management, carried out in close cooperation with political science
- Research on structures of *global governance* and *international environmental policy regimes*, carried out in cooperation with political science, and also Law and economics

2b Effectuative functions economic and operative

- Research on *environmental management systems* in business enterprises large and small, in energy, agriculture, manufacturing, transport, etc., including *environmental communication and disclosure practices* of business corporations, carried out in close cooperation with management science, Law, and economics
- Research on *environmental business competition, marketing and advertising*, as well as
- Research on green and ethical *finance and investor relations*, as well as
- Study of environmental *consumer behaviour* and patterns of purchase and use in *private households*, all of which carried out in cooperation with different branches of management science, economics, and psychology
- Studies on the ecological effects of *economic and productional globalization*, world trade, and related issues, carried out in cooperation with economics and political science
- Studies on *environmental aspects of world-system development*, with possible focusses on developing countries as well as developed countries, *north-south-relations*, carried out in cooperation again with economics and political science
- Research on *technological environmental innovation*, under the angles of research, development, production, use, regulation and finance, carried out in cooperation with political science, economics, as well as engineering and design disciplines

3a Divisional structure social groups, classes, milieus, ...

- Studies on the distribution of *ecologically relevant cultural paradigms, images of Nature, life-styles*, patterns of *consumer behaviour*, or similar, in correlation to social status, class, milieu, occupation, gender, or similar.

3b Divisional structure institutionalized sectors, production/market segments

- Sector-specific industry studies on the interactive dynamics in agriculture and food, genetic biotechnology, chemical and pharmaceutical industry, energy, transport, manufacturing, etc., including a case-specific variety of relevant formative and effectuative functions, in cooperation with political and managerial science and economics

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- Similarly, problem-specific or product-specific case studies of household appliances (e.g. washing), „sustainable household“, or similar.

As one can see from the list, the extension of the realm of environmental sociology is wide indeed. It stretches from *mind formation* on the one pole to *physical operations* in bodily and technical production/consumption on the other pole, including everything in societal communication and organisation which comes intermediary in-between mind formation and manifest, ecologically effective operation.

All of the topics within that spectrum are genuinely sociological. They justify intervention from the side of environmental sociology, and the participation of sociologists as contributors to the research being done. At the same time, however – and this too is a particular characteristic of environmental sociology – most of the topics have to be shared with neighbouring disciplines. Environmental sociology cannot avoid dealing with almost everything concerning humans and society, hence cannot avoid sharing those topics with researchers from other disciplines who approach these from their point of view. This should not be seen as a nuisance but as a permanent request for interdisciplinary cooperation within the sphere of social sciences.

Within sociology itself, such cooperations will result in mobilizing certain subdisciplines of sociology, by drawing on their specific knowledge base, and by feeding back to them some new impuls originating from environmental research. Among the subdisciplines of particular relevance here are:

- sociology of values and norms,
- sociology of knowledge,
- cultural sociology,
- sociology of modernization and innovation,
- sociology of science and research,
- sociology of technology,
- economic sociology, industrial sociology,
- organisational and management sociology,
- sociology of households and consumer behaviour,
- sociology of mass-media,
- social movements research,
- sociology of law, administration and governance,
- development sociology and world-system sociology.

I would like to conclude by trying to prevent a misunderstanding. That which has been proposed in this paper is *not* about sociology becoming assertive, trying to dominate the field of social-science environmental research and prescribe what others should do. It is, however, about making sure that environmental sociology positions itself appropriately, and has an adequate influence on what is going on in environmental research, and about committing itself to the not so easy task of being firmly rooted in its own home discipline *and* maintaining at the same time research cooperations with other social-science disciplines on a regular basis.

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